VIII. CLAIMS APPENDIX

1. A method for managing a plurality of high-availability-aware applications in a networked computer system comprising:

invoking a registration application programming interface by the plurality of high-availability-aware applications to be managed; and

invoking callback interfaces of registered applications to dynamically allocate roles and assignments to one or more of registered applications of the plurality of high-availability-aware applications to achieve a desired redundancy level based on application type information.

2. The method of claim 1, further comprising:

providing information through the application programming interface to the registered applications so that related applications among the registered components may communicate to achieve the desired redundancy level.

3. The method of claim 2, further comprising:

maintaining software release domain information,

wherein the software release domain information is provided to the related applications during the providing step.

4. The method of claim 1, further comprising:

performing administrative actions on the registered applications in response to a request from an external management agent.

5. The method of claim 1, further comprising:

responding to an error by changing roles and assignments of the registered applications via the invocation of the callback interfaces of the registered applications.

6. The method of claim 5, further comprising:

maintaining application relationship information,

wherein the application relationship information is used during the allocating step and the responding step.

8. The method of claim 5, wherein the responding step uses protection group information.

9. The method of claim 5, wherein the responding step further comprises:

choosing an appropriate response; and

altering assignments and roles of the registered applications according to the appropriate response.

10. The method of claim 9, wherein the appropriate response includes restart, fail-over, switch-over, node fail-over, and node switch-over.

11. The method of claim 1, wherein the roles allocated to the one or more of the registered applications include off-line, spare, primary, secondary, and quiescing.

12. The method of claim 1, further comprising:

maintaining application relationship information,

wherein the application relationship information is used during the allocating step.

14. The method of claim 1, wherein the allocating step uses protection group information.

15. The method of claim 1, wherein the allocating step assigns a specific role and assignment to a self-determining application in the registered applications.

16. The method of claim 1, wherein the plurality of high-availability-aware applications include stand-alone applications, proxied applications, and proxy applications.

17. The method of claim 1, wherein the application type information includes functional attributes, recovery parameter attributes, application instance level attributes, and application assignment level attributes.

18. A method of allocating an assignment in a networked computer system comprising;

registering a plurality of components applications through an application programming interface, wherein the plurality of applications are high-availability aware;

allocating roles to registered applications of the plurality of applications by invoking a callback interface of registered applications;

allocating the assignment to a first application selected from the registered applications based on application type information of the first application by invoking a callback interface of the first application;

changing a role of the first application to primary by invoking a callback interface of the first application;

determining an application specific redundancy level based on the application type information;

allocating the assignment to a predetermined number of secondary applications selected from the registered applications based on application type information of the secondary applications, wherein the predetermined number is based on the redundancy level of the application by invoking a callback interface of the secondary applications;

changing roles of the predetermined number of secondary applications to secondary by invoking a callback interface of the secondary applications; and

notifying the first application by invoking a callback interface of the first application about the predetermined number of secondary applications and the predetermined number of secondary applications about the first application by invoking a callback interface of the second applications.

19. The method of claim 18, further comprising:

detecting an error affecting the first application;

selecting a new primary application from the predetermined number of secondary applications; and

changing a role of the new primary application to primary by invoking a callback interface of the new primary application.

20. The method of claim 19, further comprising:

instructing the first application, by invoking a callback interface of the first application, to communicate information to the new primary application.

21. The method of claim 18, further comprising:

detecting an error affecting the first application; and

restarting the first application.

22. The method of claim 18, further comprising:

maintaining software release domain information,

wherein the software release domain information is included in the notifying step.

23. The method of claim 18, further comprising:

performing administrative actions on the registered applications in response to a request from an external management agent.

24. The method of claim 18, further comprising:

maintaining application relationship information;

wherein the application relationship information is used in the two assignment allocating steps.

25. A method of allocating an assignment to a plurality of high-availability-aware applications in a networked computer system, the method comprising;

registering the plurality of high-availability-aware applications through an application programming interface;

allocating roles to registered applications of the plurality of high-availability-aware applications by invoking a callback interface of the registered applications;

maintaining application relationship information;

selecting a first application from the registered applications based on application type information and the application relationship information;

allocating the assignment to the first application by invoking a callback interface of the first application;

changing a role of the first application to primary by invoking a callback interface of the first application;

determining a redundancy level based on the application type information;

selecting a predetermined number of secondary applications from the registered applications based on application type information of the secondary applications and the application relationship information, wherein the predetermined number is based on the determined redundancy level;

changing roles of the predetermined number of secondary applications to secondary by invoking a callback interface of the secondary applications; and

notifying the first application, by invoking a callback interface of the first application, about the predetermined number of secondary applications and the predetermined number of secondary applications, by invoking a callback interface of the secondary applications, about the first application.

26. The method of claim 25, further comprising:

detecting an error affecting the first application;

selecting a new primary application from the predetermined number of secondary applications using the application relationship information; and

changing a role of the new primary application to primary by invoking a callback interface of the new primary application.

27. The method of claim 26, further comprising:

instructing the first application to communicate information to the new primary application by invoking a callback interface of the first application.

28. The method of claim 25, further comprising:

maintaining software release domain information, wherein the software release domain information is included in the notifying step.

29. The method of claim 25, further comprising:

performing administrating actions on the registered applications in response to a request from an external management agent.

30. A computer program product for managing a plurality of high-availability-aware applications in a networked computer system, the computer program product comprising:

computer readable program code configured to register the plurality of high-availability-aware applications to be managed by invoking a registration application programming interface;

computer readable program code configured to dynamically allocate roles and assignments to one or more registered applications of the plurality of high-availability-aware applications to achieve a desired redundancy level based on application type information by invoking a callback interface of the registered applications; and

a computer readable medium having the computer readable program codes embodied therein.

31. The computer program product of claim 30, further comprising:

computer readable program code configured to provide information to the registered applications so that related applications may communicate to achieve the desired redundancy level.

32. The computer program product of claim 30, further comprising:

computer readable program code configured to respond to an error by changing roles and assignments of one or more of the plurality of applications by invoking a callback interface of the registered applications.

33. A computer readable medium configured to embody computer programming instructions for managing a plurality of high-availability-aware applications in a networked computer system, the computer programming instructions comprising:

registering the plurality of high-availability-aware applications to be managed through an application programming interface; and

dynamically allocating roles and assignments to registered applications of the plurality of high-availability-aware applications to achieve a desired redundancy level based on application type information by invoking a callback interface of the registered applications.

34. A computer program product for allocating an assignment in a networked computer system, the computer program product comprising

computer readable program code configured to provide an application programming interface to register a plurality of high-availability-aware applications components;

computer readable program code configured to allocate roles to registered applications components of the plurality of high-availability-aware applications by invoking a callback interface of the registered applications;

computer readable program code configured to allocate the assignment to a first application selected from the registered applications based on application type information of the first application by invoking a callback interface of the first application;

computer readable program code configured to change a role of the first application to primary by invoking a callback interface of the first application;

computer readable program code configured to determine a redundancy level based on the application type information;

computer readable program code configured to allocate the assignment to a predetermined number of secondary applications selected from the registered applications based on application type information of the secondary components, wherein the

predetermined number is based on the redundancy level by invoking a callback interface of the secondary applications;

computer readable program code configured to change roles of the predetermined number of secondary applications to secondary by invoking a callback interface of the second applications;

computer readable program code configured to notify the first application by invoking a callback interface of the first application about the predetermined number of secondary applications and the predetermined number of secondary applications about the first application by invoking a callback interface of the secondary applications; and

a computer readable medium having the computer readable program codes embodied therein.

35. The computer program product of claim 34, further comprising:

computer readable program code configured to detect an error affecting the first application;

computer readable program code configured to select a new primary application from the predetermined number of secondary applications; and

computer readable program code configured to change a role of the new primary application to primary by invoking a callback interface of the new primary application.

36. A system for managing a plurality of high-availability-aware applications in a networked computer system, the system comprising:

means for registering the plurality of high-availability-aware applications to be managed through an application programming interface; and

means for dynamically allocating roles and assignments to one or more of registered applications of the plurality of high-availability-aware applications to achieve a desired redundancy level based on application type information by invoking a callback interface of the registered applications.

37. The system of claim 36, further comprising:

means for responding to an error by changing roles and assignments of one or more of the registered applications by invoking a callback interface.

38. The system of claim 36, further comprising:

means for providing information through the application programming interface to the registered applications so that related applications may communicate to achieve the desired redundancy level.

39. The system of claim 36, further comprising:

means for performing administrative actions on the registered applications in response to a request from an external management agent.

40. A system for allocating an assignment in a networked computer system, the system comprising:

means for registering a plurality of high-availability-aware applications through an application programming interface;

means for allocating roles to registered applications of the plurality of high-availability-aware applications by invoking a callback interface of the registered applications;

means for allocating the assignment to a first application selected from the registered applications based on application type information of the first application by invoking a callback interface of the first application;

means for changing a role of the first application to primary by invoking a callback interface of the first application;

means for determining a redundancy level based on the application type information;

means for allocating the assignment to a predetermined number of secondary applications selected from the registered applications based on application type information of the secondary applications, wherein the predetermined number is based on the redundancy level by invoking a callback interface of the secondary applications;

means for changing roles of the predetermined number of secondary applications to secondary by invoking a callback interface of the secondary applications; and

means for notifying the first application about the predetermined number of secondary applications by invoking a callback interface of the first application and the predetermined number of secondary applications components about the first application by invoking a callback interface of the secondary applications.

41. A mechanism configured to manage a plurality of high-availability-aware applications in a networked computer system, the mechanism comprising:

a mechanism configured to register through an application programming interface the plurality of high-availability-aware applications to be managed; and

a mechanism configured to dynamically allocate roles and assignments to registered applications of the plurality of high-availability-aware applications to achieve a desired redundancy level based on application type information by invoking a callback interface of the registered applications.

42. The mechanism of claim 41, further comprising:

a mechanism configured to respond to an error by changing roles and assignments of the registered applications by invoking a callback interface of the registered applications.

43. The mechanism of claim 41, further comprising:

a mechanism configured to provide information to the registered applications so that related applications among the registered applications may communicate to achieve the desired redundancy level.

44. The mechanism of claim 41, further comprising:

a mechanism configured to perform administrative actions on the registered applications in response to a request from an external management agent.

45. The mechanism of claim 41, further comprising:

a mechanism configured to maintain additional information relevant to managing the registered applications.

46. The mechanism of claim 45, wherein the additional information includes information regarding software release domains, application relationships, and protection groups.